

Applicants: Ron S. Israeli, et al.
Serial No.: 08/403,803
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Please amend the subject application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the specification:

Listing of Claims:

Claims 1-99. (Canceled)

Claim 100. (Currently Amended) A nucleic acid probe which (a) is at least 15 nucleotides in length and (b) hybridizes specifically to a nucleic acid having a sequence set forth in SEQ ID NO:1 ~~No. 1~~, wherein the probe so hybridizes under hybridization conditions which are either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C.

Claim 101. (Currently Amended) A nucleic acid probe which (a) is at least 15 nucleotides in length and (b) hybridizes specifically to a nucleic acid having a sequence complementary to the DNA sequence set forth in SEQ ID NO:1 ~~No. 1~~, wherein the probe so hybridizes under hybridization conditions which are either i) 65°C in

hybridization buffer followed by washing
twice in 1xSSPE/1% SDS and twice in
0.1xSSPE/1% SDS at 42°C or ii) 65°C in
hybridization buffer and washing twice in
1xSSPE/0.5% SDS at 42°C and twice in
0.1xSSPE/0.5% SDS at 50°C.

Claim 102. (Previously Presented) The nucleic acid probe of claim 100 or 101, wherein the nucleic acid probe is DNA.

Claim 103. (Previously Presented) The nucleic acid probe of claim 100 or 101, wherein the nucleic acid probe is RNA.

Claim 104. (Previously Presented) The nucleic acid probe of claim 100 or 101, wherein the nucleic acid probe is labeled with a detectable marker.

Claim 105. (Previously Presented) The nucleic acid probe of claim 104, wherein the detectable marker is a radioactive label or fluorescent label.

Claims 106-112. (Canceled)

Claim 113. (Currently Amended) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide comprising consecutive amino acids, the sequence of which amino acids corresponds

to the sequence of all or less than all of an outside region of prostate specific membrane antigen, the amino acid sequence of which outside region is set forth within SEQ ID NO:2 beginning with amino acid number 45 at the amino terminus, provided that the prostate specific membrane antigen polypeptide so encoded is characterized by antigenicity, wherein the isolated nucleic acid is further characterized by being able to hybridize specifically to the nucleic acid sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under hybridization conditions of either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C.

Claim 114. (Currently Amended) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide:

(A) consisting essentially of consecutive amino acids, the sequence of which corresponds to the sequence of all or less than all of an outside region of prostate specific membrane antigen, the amino acid sequence of

which outside region is set forth within SEQ ID NO:2 beginning with amino acid number 45 at the amino terminus, and

(B) ~~which encoded prostate specific membrane antigen polypeptide is~~ characterized by antigenicity and ~~comprises the presence within it of~~ each of the following sequences:

- (a) Asp-Glu-Leu-Lys-Ala-Glu
(SEQ ID NO: 35);
- (b) Asn-Glu-Asp-Gly-Asn-Glu
(SEQ ID NO: 36); and
- (c) Lys-Ser-Pro-Asp-Glu-Gly
(SEQ ID NO: 37).

Claim 115. (Currently Amended) An isolated nucleic acid which encodes an antigenic prostate specific membrane antigen polypeptide:

(A) consisting essentially of a fragment of prostate specific membrane antigen, which fragment has a sequence which is the same as the sequence of all or less than all of an antigenic outside region of prostate specific membrane antigen, the amino acid sequence of which outside region is included within SEQ

ID NO:2 beginning with amino acid number 45 at the amino terminus, and

(B) ~~which encoded prostate specific membrane antigen fragment is~~ characterized by antigenicity and ~~comprises~~ the presence within it of each of the following sequences:

- (a) Asp-Glu-Leu-Lys-Ala-Glu
(SEQ ID NO: 35);
- (b) Asn-Glu-Asp-Gly-Asn-Glu
(SEQ ID NO: 36); and
- (c) Lys-Ser-Pro-Asp-Glu-Gly
(SEQ ID NO: 37).

Claim 116. (Previously Presented) An isolated nucleic acid having within its structure at least 15 consecutive nucleotides having a sequence which is present in the sequence set forth in SEQ ID NO:1 and encoding a fragment of prostate specific membrane antigen.

Claim 117. (Previously Presented) An isolated nucleic acid having within its structure at least 15 consecutive nucleotides having a sequence which is complementary to a sequence present in the sequence set forth in SEQ ID NO:1.

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Claim 118. (Previously Presented) The isolated nucleic acid of claim 116, wherein the isolated nucleic acid encodes an antigenic domain of prostate specific membrane antigen.

Claim 119. (Previously Presented) The isolated nucleic acid of claim 116, wherein the fragment has a sequence which is the same as a sequence of all or less than all of an outside region of prostate specific membrane antigen, the amino acid sequence of which outside region is set forth within SEQ ID NO:2 beginning with amino acid number 45 at the amino terminus.

Claim 120. (Currently Amended) An isolated nucleic acid which encodes an antigenic fragment of prostate specific membrane antigen, which fragment is characterized by antigenicity and has a sequence which is the same as a sequence of all or less than all of an outside region of prostate specific membrane antigen, the amino acid sequence of which outside region is set forth within SEQ ID NO:2 beginning with amino acid number 45 at the amino terminus, and the antigenic fragment comprises consecutive amino acids having a sequence selected from the group consisting of SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37 and SEQ ID NO:38, provided that if the

antigenic fragment comprises consecutive amino acids having the sequence set forth in SEQ ID NO:35, the antigenic fragment further comprises at least one additional amino acid present in SEQ ID NO:2, provided that the sequence of the antigenic fragment is included within SEQ ID NO:2.

Claim 121. (Currently Amended) An isolated nucleic acid which is at least 15 nucleotides in length and specifically hybridizes to the nucleic acid of any one of claims 113-120, wherein the isolated nucleic acid is further characterized by being able to hybridize to the nucleic acid sequence set forth in SEQ ID NO:1 or a nucleic acid sequence complementary thereto under hybridization conditions of either i) 65°C in hybridization buffer followed by washing twice in 1xSSPE/1% SDS and twice in 0.1xSSPE/1% SDS at 42°C or ii) 65°C in hybridization buffer and washing twice in 1xSSPE/0.5% SDS at 42°C and twice in 0.1xSSPE/0.5% SDS at 50°C.

Claim 122. (Previously Presented) A vector which comprises the isolated nucleic acid of any one of claims 113-120.

Claim 123. (Previously Presented) The vector of claim 122, wherein the vector is a plasmid.

Claim 124. (Previously Presented) A host vector system for the production of a polypeptide which comprises the vector of claim 122 and a suitable host cell.

Claim 125. (Previously Presented) The host vector system of claim 124, wherein the suitable host cell is a bacterial cell, insect cell, or mammalian cell.

Claim 126. (Previously Presented) A method of producing a polypeptide which comprises using the host vector system of claim 125 under suitable conditions permitting production of the polypeptide and recovering the polypeptide so produced.